Remarks

Claims 1, 4, 7, 35, 72 and 73 have been amended. Claims 58-60, 68-71, and 81-97 were previously cancelled. Currently, claims 1-57, 61-67, 72-80, and 98-117 are pending and under examination.

Rejections under 35 U.S.C. 101

The Examiner has rejected certain claims under 35 U.S.C. 101 as reading on products of nature. The Examiner has suggested amending the claims to specify "isolated." As such, applicants have amended independent claims (claims 1, 4 and 7) to include the word "isolated." Applicants submit that the present claim amendments render this ground of rejection moot. Accordingly, applicants respectfully request withdrawal of this ground of rejection.

Rejections under 35 U.S.C. 112, second paragraph

The Examiner has rejected claims 72 and 73 under 35 U.S.C. 112, second paragraph. Claims 72 and 73 have been amended to correct the antecedent basis issue by depending from claim 49. Applicants submit that the present claim amendments render this ground of rejection moot. Accordingly, applicants respectfully request withdrawal of this ground of rejection.

Rejections under 35 U.S.C. 112, first paragraph (written description)

The Examiner has rejected claims 1-34, 49-57, 61-67, 74-80 and 98-141 under 35 U.S.C. 112, first paragraph (written description). The Examiner has alleged that there is no support for the amendment of the claims to human antibodies. The Examiner further asserts that the specification does not "adequately describe the claimed genus of antibody multimers

which include any antibody which binds to the described sequence motif." Applicants respectfully disagree. First, one skilled in the art would appreciate that deriving antibodies from a phage display of human antibody sequences provides human antibodies. Second, applicants have shown that Y1 and Y17 also bind to human platelets and leukemia cells. The Y1 antibody is fully described as SEQ ID NO: 25 and the Y17 antibody as SEQ ID NO:203. The CDR3 regions are SEQ ID NO:8 and SEQ ID NO:20 for the Y1 and the Y17 antibodies, respectfully. In addition to the Y1 and Y17 antibodies, the specification teaches additional human antibodies that bind the various epitopes recited in the claims (see paragraphs [177] and [179-186] of the originally filed specification). For example, the specification discusses antibodies having a CDR3 region of SEQ ID NO:8-24. The specification further defines these antibodies as having CDR2 and CRD1 regions of SEQ ID NO: 30-113, preferably, SEQ ID NO: 115 and SEQ ID NO: 114, respectively. Further, the specification describes preferred flanking regions between the CDR 1, 2 and 3 regions. For instance, the upstream and downstream flanking region of CDR 3 is SEQ ID NO: 117 and 116, respectfully. The upstream and downstream flanking region of CDR 2 is SEQ ID NO: 119 and 118, respectfully. The upstream and downstream flanking region of CDR 1 is SEQ ID NO: 121 and 120, respectfully. See paragraph [184]. Thus the specification described many antibodies other than the Y1 and the Y17 antibodies.

Finally, the epitopes to which the antibodies bind are fully described. Although, the claims contain an epitope motif that has variations, the specification teaches that antibodies of the present invention bind various epitopes that fall within this motif. Thus, applicants respectfully assert that the motif is clearly described and as such applicants are entitled to claim antibodies that bind to the motif, especially in light of the specification providing numerous antibodies (including Y1 and Y17) that bind to the motif. Further, the specification teaches how the antibodies, including Y1 and Y17 were generated. Accordingly, applicants respectfully submit that the specification clearly indicates that they were in possession of the claimed genus of human antibody multimers. Applicants respectfully request withdrawal of this ground of rejection.

The Examiner has also rejected claim 45 under 35 U.S.C. 112, first paragraph (written description), stating that the amended sequence was not present in the originally filed disclosure. Applicants respectfully disagree. The epitope described in claim 45 was part of the original disclosure. See paragraph 251. The previous claim amendments was lodged to correct a typographical error in the originally filed claim 45. The correct sequence, which is now reflected in amended claim 45, was provided in the original specification at paragraph 251. Accordingly, Applicants respectfully request withdrawal of this ground of rejection.

Claim rejections under 35 U.S.C. §102(b)

The Examiner has rejected claims 35, 36, 38-44 and 46-48 as being anticipated by Ward et al. and claims 35, 36, 38-44, 46-48, 37, 45, 72 and 73 as being anticipated by Snapp et al. Applicants submit that the presently amended claims render this ground of rejection moot. The claims have been amended to indicate that the claimed antibody multimers are not multimers of SZ2 (Ward et al.) and KPL-1 (Snapp et al.). Support for this amendment is found throughout the specification where Y1 is compared to SZ2 and KPL-1. The specification shows that although some cells and epitopes are bound by both Y1 and SZ2 and KPL-1, Y1 and the claimed antibody multimers are clearly different than SZ2 and KPL-1 as they also bind different cells and different epitopes. For example, paragraph [238] states that "[i]n contrast to SZ2, Y1 binds not only to GP1b, but also to plasma proteins and to myeloid derived cells." Paragraph [247] indicates that KPL1 does not recognize glycocalicin, and the specification earlier noted that Y1 does recognize glycocalicin if Tyr-276 is sulfated. Further, paragraph [250] states "[a]nalysis of binding of scFv Y1 antibodies and anti-CD162 antibodies [e.g. KPL-1] to diseased cells also illustrates that scFv Y1 has binding characteristics different from those of anti-CD162 antibodies." Applicants submit that Ward et al. or nor Snapp et al. teach or suggest the presently claimed antibodies. Accordingly, applicants respectfully request withdrawal of this ground of rejection.

Provisional double patenting rejection

The Examiner has rejected claims 1-28 and 32-48 for obvious-type double patenting over claims 18-21 and 23-117 of co-pending application 10/032,423. Since no patent has issued at this time, applicants submit that this ground of rejection is still provisional. Applicants will submit a terminal disclaimer, however, if necessary when the two applications are deemed allowable.

Conclusion

If, in the opinion of the Examiner, a telephone conference would expedite prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

The Office is authorized to charge any fees that may be necessary for consideration of this paper to Kenyon & Kenyon Deposit Account No. 11-0600.

Respectfully submitted,
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